

WHAT IS CLAIMED IS:

1. A heat exchanging device having an inlet pipe for introducing a coolant and a discharge pipe for discharging the coolant introduced from the inlet pipe, characterized in that

the heat exchanging device comprises a spiral pipe wound in multiple layers of which a diameter gradually increases to form a spiral shape as it moves from the inlet pipe to the discharge pipe.

2. The heat exchanging device according to claim 1, wherein the spiral pipe is spirally wound an odd number of times so that the inlet pipe is positioned at a side opposite the discharge pipe.

3. The heat exchanging device according to claim 1, wherein the spiral pipe is spirally wound an even number of times so that the inlet pipe is positioned at the same position as the discharge pipe.

4. A heat exchanging device having an inlet pipe for introducing a coolant and a discharge pipe for discharging the coolant introduced from the inlet pipe, the heat exchange device comprising:

an inner spiral pipe wound in a spiral shape so that the diameter gradually decreases from the inlet pipe; and

an outer spiral pipe outwardly connected to the inner spiral pipe at a position where the inner spiral pipe has the smallest diameter and wound in a spiral shape at a

predetermined space with respect to the inner spiral pipe and then connected to the discharge pipe.

5. The heat exchanging device according to claim 4, wherein the spacing between the inner spiral pipe and the outer spiral pipe is gradually narrowed from a position having a large diameter to a position having a small diameter.

6. A heat exchanging device having an inlet pipe for introducing a coolant and a discharge pipe for discharging the coolant introduced from the inlet pipe, the heat exchange device comprising:

an inner spiral pipe wound in a spiral shape so that the diameter gradually decreases from the inlet pipe;

an outer spiral pipe outwardly connected to the inner spiral pipe at a position where the inner spiral pipe has the smallest diameter and wound in a spiral shape at a predetermined space from the inner spiral pipe and then connected to the discharge pipe; and

a supporting unit for supporting the inner spiral pipe and the outer spiral pipe so as to be fixed to each other.

7. The heat exchanging device according to claim 6, wherein the supporting unit comprises:

a plurality of fixing plates to maintain a regular space between the inner spiral pipe and the outer spiral pipe ;

a support stand fixed to a side of the fixing plate and extended downward for supporting the inner spiral pipe and the outer spiral pipe;

a bent portion bent horizontally from an end of the support stand; and
an engaging member for engaging the bent portion to a bottom plate.

8. The heat exchanging device according to claim 7, wherein the engaging member is a screw.

9. A heat exchanging device having an inlet pipe for introducing a coolant and a discharge pipe for condensing and discharging the coolant introduced from the inlet pipe, the heat exchange device comprising:

an inner spiral pipe wound in a spiral shape so that the diameter gradually decreases from the inlet pipe;

an outer spiral pipe outwardly connected to the inner spiral pipe at a position where the inner spiral pipe has the smallest diameter and wound in a spiral shape at a predetermined spacing with respect to the inner spiral pipe and then connected to the discharge pipe;

a supporting unit for supporting the inner spiral pipe and the outer spiral pipe so as to be fixed to each other; and

a blast unit installed to the inner spiral pipe and the outer spiral pipe at a portion where the inner and outer spiral pipes have the greatest diameter in order to blast air to the center of the pipes for cooling.

10. The heat exchanging device according to claim 9, wherein the blast unit comprises:

a fan support supported to the bottom plate;

a driving motor supported by the fan support for generating a driving force; and

a blast fan coupled to a rotary shaft of the driving motor for blasting an air toward the inner spiral pipe and the outer spiral pipe 44.